



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of: WATANABE, et al.

Group Art Unit: 2825

Serial No.: 09/320,271

Examiner: Calvin Lee

Filed: May 27, 1999

P.T.O. Confirmation No.: 4409

For: SEMICONDUCTOR DEVICE AND FABRICATION METHOD THEREOF

INFORMATION DISCLOSURE STATEMENT  
PURSUANT TO 37 CFR 1.97(b)

Commissioner for Patents  
Washington, D.C. 20231

November 18, 2002

Sir:

The attention of the Patent and Trademark Office is hereby directed to the documents listed on the attached Form PTO-1449. One copy of each of these documents is attached.

No fee or certification is required in connection with this Information Disclosure Statement, since it is being submitted prior to the issuance of a first official action on the merits following the **Request for Continued Examination (RCE)** in the above-identified patent application.

The above information is presented so that the Patent and Trademark Office can, in the first instance, determine any materiality thereof to the claimed invention. It is respectfully requested that the information be expressly considered during the prosecution of this application, and that the documents cited in the attached Form PTO-1449 be made of record therein and appear on the first page of any patent to issue therefrom.

A list of related copending application is also attached hereto. The cited references were made of record in the related copending application.

The Commissioner is authorized to charge our Deposit Account No. 01-2340 for any fee which is deemed by the Patent and Trademark Office to be required to effect consideration of this statement.

Respectfully submitted,

ARMSTRONG, WESTERMAN & HATTORI, LLP



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Attorney for Applicants  
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Atty. Docket No. 990559  
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(202) 659-2930



23850

PATENT TRADEMARK OFFICE

Enclosures: PTO-1449  
References  
Related Copending Applications



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

MAR 26, 2004

Initiate the Application of: **WATANABE, et al.**

Group Art Unit: **2825**

Serial No.: **09/320,271**

Examiner: **Calvin Lee**

Filed: **May 27, 1999**

Confirmation No.: **4409**

For: **SEMICONDUCTOR DEVICE AND FABRICATION METHOD  
THEREOF**

Attorney Docket No.: **990559**  
Customer Number: **38834**

**REQUEST FOR RETURN OF FORM PTO-1449**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, Virginia 22313-1450

March 26, 2004

Sir:

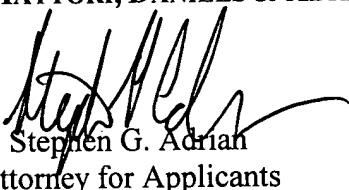
Applicants filed an Information Disclosure Statement (IDS) on November 18, 2002. The IDS contained seven sheets of Form PTO-1449. Only two of these sheets were returned. A copy of this IDS is attached hereto along with the five sheets which were not marked to indicate that the references were considered. In addition, that IDS contained a sheet identifying related copending applications.

Applicant respectfully requests that the Examiner return a copy of the Forms PTO-1449 that accompany the Information Disclosure Statement, marked to indicate that the references listed therein have been considered by the Office.

The Examiner is encouraged to telephone the undersigned if the Examiner has any questions concerning this Request.

Respectfully submitted,

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MAR 26 2004

U.S. DEPARTMENT OF COMMERCE  
PATENT AND TRADEMARK OFFICE

ATTY. DOCKET NO.

990559

SERIAL NO.

09/320,271

APPLICANT

WATANABE et al.

FILING DATE

May 27, 1999

GROUP

2825

## LIST OF REFERENCES CITED BY APPLICANT

(Use several sheets if necessary)

## U.S. PATENT DOCUMENTS

EXAMINER INITIAL	DOCUMENT NO.	DATE	NAME	CLASS	SUB-CLASS	FILING DATE
AA	5,024,723	06/18/91	Goesele, et al.	156	628	
AB	5,616,513	04/01/97	Shepard	438	402	
AC	5,674,784	10/07/97	Jang, et al.	437	195	
AD	5,723,895	03/03/98	Takahashi	257	499	
AE	5,830,773	11/03/98	Brennan, et al.	437	67	
AF	5,581,101	12/3/96	Ning et al.	257	347	
AG	4,962,052	10/09/90	Asayama, et al.	437	31	
AH	5,930,624	07/27/99	Murata, et al.	438	253	
AI	5,153,680	10/06/92	Naito, et al.	438	687	
AJ	3,747,203	07/24/73	Shannon	438	629	
AK	5,166,768	11/24/92	Ito	438	637	
AL	4,676,867	06/30/87	Elkins, et al.	156	643	
AM	4,775,550	10/04/88	Chu, et al.	427	38	
AN	4,885,262	12/05/89	Ting, et al.	437	231	
AO	4,983,546	01/08/91	Hyun, et al.	437	231	
AP	5,003,062	03/26/91	Yen	437	231	
AQ	5,106,787	04/21/92	Yen	437	231	
AR	5,352,630	10/04/94	Kim, et al.	437	195	
AS	5,549,786	08/27/96	Jones, et al.	156	662.1	
AT	4,984,055	01/1991	Okumura, et al.	257	644	
AU	5,270,259	12/1993	Ito, et al.	437	235	
AV	5,468,684	11/1995	Yoshimori, et al.	437	228	
AW	5,087,589	02/11/92	Chapman, et al.	437	195	
AX	5,963,827	10/1999	Enomoto et al.	438	629	
AY	5,341,026	08/23/94	Harada, et al.	257	764	
AZ	5,514,910	05/07/96	Koyama	257	768	

## LIST OF REFERENCES CITED BY APPLICANT

(Use several sheets if necessary)

APPLICANT

WATANABE et al.

FILING DATE

May 27, 1999

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2825

## U.S. PATENT DOCUMENTS (CONTINUED)

EXAMINER INITIAL		DOCUMENT NO.	DATE	NAME	CLASS	SUB-CLASS	FILING DATE
	BA	5,607,880	03/04/97	Suzuki	437	195	
	BB	5,702,568	12/30/97	Shin, et al.	156	644	
	BC	5,314,834	08/26/91	Mazure, et al.	438	595	
	BD	5,866,476	02/02/99	Choi, et al.	438	624	
	BE	5,084,412	01/28/92	Nakasaki	437	189	
	BF	5,479,054	12/26/95	Tottori	257	752	
	BG	5,753,975	05/19/98	Matsuno	257	751	
	BH	6,013,578	01/2000	Jun	438	687	
	BI	5,817,582	10/06/98	Maniar	438	782	
	BJ	5,569,618	10/29/96	Matsubara	437	52	
	BK	5,186,745	02/16/93	Maniar	106	287	
	BL	5,496,776	03/05/96	Chien, et al.	437	231	
	BM	5,855,962	01/05/99	Cote, et al.	427	376	
	BN						

## FOREIGN PATENT DOCUMENTS

		DOCUMENT NO.	DATE	COUNTRY	TRANSLATION YES      NO
	BO	02-235358	09/18/90	Japan	Abstract
	BP	JP 6-291202	10/18/94	Japan	Abstract
	BQ	JP 63 198359	8/17/88	Japan	Abstract
	BR	10-303295	11/13/98	Japan	Abstract
	BS	59-017243	01/28/84	Japan	Abstract
	BT	58-031519	02/24/83	Japan	Abstract
	BU	10-209147	08/07/98	Japan	Abstract
	BV	08-241891	09/17/96	Japan	Abstract
	BW	09-330982	12/22/97	Japan	Abstract
	BX	62-060242	03/16/87	Japan	Abstract
	BY	01-199456	08/10/89	Japan	Abstract
	BZ	03-101130	04/25/91	Japan	Abstract

## LIST OF REFERENCES CITED BY APPLICANT

(Use several sheets if necessary)

APPLICANT

WATANABE et al.

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## FOREIGN PATENT DOCUMENTS (CONTINUED)

		DOCUMENT NO.	DATE	COUNTRY	TRANSLATION Yes	No
	CA	05-074963	03/26/93	Japan	Abstract	
	CB	06-349950	12/22/94	Japan	Abstract	
	CC	02-026055	01/29/90	Japan	Abstract	
	CD	04-234149	08/21/92	Japan	Abstract	
	CE	07-099195	04/11/95	Japan	Abstract	
	CF	02-253643	10/12/90	Japan	Abstract	
	CG	02-007451	01/11/90	Japan	Abstract	
	CH	08-017770	01/19/96	Japan	Abstract	
	CI	06-275229	09/30/94	Japan	Abstract	
	CJ	05-198523	08/06/93	Japan	Abstract	
	CK	04-317358	11/09/92	Japan	Abstract	
	CL	08-064561	03/08/96	Japan	Abstract	
	CM	01-307247	12/12/89	Japan		No
	CN	JP 56-125844	10/2/81	Japan	Abstract	
	CO	02-101532	08/13/90	Japan	Yes	
	CP	02-235358	09/18/90	Japan	Yes	
	CQ	04-307934A	10/30/92	Japan		No
	CR	DE 42 18 495	12/10/92	Germany		No

## OTHER REFERENCES (Including Author, Title, Date, Pertinent Pages, Etc.)

	CS	"Multilevel-Interconnection Technology for VLSI and ULSI," Silicon Processing for the VLSI Era - Volume II, (pp. 232-233).
	CT	"Lithography I: Optical Resist Material and Process Technology," (pp. 441).
	CU	1995 Proceedings 12th International VLSI Multilevel Interconnection Conference (VMIC Catalog No. 95ISMIC - 104), June 27-29, 1995.
	CV	Wang, et al., "A Study of Plasma Treatments on Siloxane SOB," IEEE VMIC Conference, June 7-8, 1994, pp. 101-107.
	CW	Chiang, et al., "Defects Study on Spin on Glass Planarization Technology," IEEE VMIC Conference, June 15-16, 1987, pp. 404-412.

## LIST OF REFERENCES CITED BY APPLICANT

(Use several sheets if necessary)

APPLICANT  
WATANABE et al.FILING DATE  
May 27, 1999GROUP  
2825

## OTHER REFERENCES - CONTINUED (Including Author, Title, Date, Pertinent Pages, Etc.)

CX	Lai-Juh Chen, et al., "Flourine-Implanted Treatment (FIT) SOG for the Non-Etchback Intermetal Dielectric," IEEE VMIC Conference, June 7-8, 1994, pp. 81-86.
CY	Moriya, et al., "Modification Effects in Ion-Implanted SiO <sub>2</sub> Spin-on-Glass," Journal of Electrochem. Soc., Vol. 140, No. 5, May 1993, pp. 1442-1450.
CZ	Matsuura, et al., "An advance Interlayer Dielectric System with Partially Converted Organic SOG Using Plasma Treatment," IEEE VMIC Conference, June 8-9, 1993, pp. 113-115.
DA	Ishida, et al., "Mechanism for AlSiCu Alloy Corrosion," Japanese Journal of Applied Physics, Vol. 31 (1992), pp. 2045-2048.
DB	Doki, et al., "Moisture-Blocking Mechanism of ECR-Plasma," IEEE VMIC Conference, June 7-8, 1994, pp. 235-239.
DC	Shimokawa, et al., "Suppression of MOSFET Hot Carrier Degradation by P-SiO Underlayer," The Institute of Electronics, Information and Communication Engineers, Techinal Report of IEICE, SDM92-133 (1992-12), pp. 89-94.
DD	Murase, et al., "Dielectric Constant of Silicon Dioxide Deposited by Atospheric-Pressure Chemical Vapor Deposition Using Tetraethylorthosilicate and Ozone," Japanese Journal of Applied Physics, Vol. 33, (1994), pp. 1385-1389.

EXAMINER	DATE CONSIDERED

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

### OTHER DOCUMENTS

AR	Wolf et al."Silicon Processing for the VLSI Era: Volume I - Process Technology," "Lattice Press, 1986 p. 441
AS	Office Action of Japanese Application No. 09-234456.
AT	OFFICE Action of JAPanese Application No. 08-181593.
AU	Office Action of Japanese Applicarion No. 09-204942.
AV	Office Action of Japanese Application No. 08-345587.
AW	Office Action Of Japanese Application No. 09-012788.
AX	Office Action of Japanese Application No. 07-227294.
AY	

Date Considered

### **Related Copending Applications**

<u>Application No.</u>	<u>Filing Date</u>	<u>Attorney Docket No.</u>	<u>Status</u>
08/921,250	8/29/97	970813	Pending
08/806,425	2/26/97	970150	5,892,269 (Issued)
09/228,148	1/11/99	970150A	Pending
09/160,044	09/25/98	981187	6,235,648 (Issued)
09/716,334	11/21/00	981187A	Pending
08/923,901	09/04/97	970952	6,288,438 (Issued)